UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/975,382	10/10/2001	Renatus Josephus Van Der Vleuten	NL 000564	2379

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EXAMINER
PATEL, NIRAV B

ART UNIT	PAPER NUMBER
2135	

DATE MAILED: 10/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
Office Action Summary	09/975,382	VAN DER VLEUTEN ET AL.
	Examiner	Art Unit	
	Nirav Patel	2135	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _10/10/2001(Amendment 9/21/05)_ .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-20_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-20_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on _10 October 2001_ is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

1. This action is responding to the amendment dated 09/21/05.

2. Claims 1, 3, 5, 6, 9-13, 15, 17, 19 and 20 are amended by Applicant. Claims 1-20

are pending.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-5, 7, 10, 13, 14, 19 and 20 are rejected under 35 U.S.C. 103(a) as

being unpatentable over Shin et al (US Patent No. 6,493,387) and in view of Park et al

(US Patent No. 6,148,288).

As per claim 1, Shin teaches:

coding the object **[col.1 line 51 "moving picture"]** to obtain a bit-stream having

multiple coded parts **[col. 2 lines 2-4 "a single base layer and at least one**

enhancement layer;(b) coding the shape and texture information of the base layer

to generate a base layer bitstream"].

adding quality information (i.e. to quantify the quality, preferably SNR(signal-to-noise

ratio values are used) **[col. 5 lines 1-5 "As further information related to the SNR**

scalable architecture is added to the BL, the SNR of the BL gradually increases,

so that the picture quality of images is sequentially enhanced as shown in

BSNR03, BSNR14 and BSNR25" *col. 6 lines 6-8* "the first SNR scalable

architecture generator 126 generates bitstreams BSL(0), BSL(1), . . . , BSL(n-1)

and BLS(n) based on frequency bands", *col. 6 lines 50-54* "referring to FIG. 2, the

bit streams BSL(0), BSL(1), . . . , BSL(n-1) and BSL(n) are sequentially added to

the base layer bitstream BL, thereby constructing BSNR(0), BSNR(1), . . . ,

BSNR(n-1) and BSNR(n)"].

Shin doesn't expressively mention that coded part including *a header and*

a data part and adding quality information *to the header of the coded parts* of the

bitstream.

However, Park teaches that each coded part including a header and a

data part [Fig. 3 *col. 10 lines 7-9*], *generating quality information* which indicates a

quality of the object when the bit-stream is truncated during decoding thereof in relation

to the data parts of the coded parts of the bit-stream [Fig.2 *col. 6 lines 36-39*

"Quantization is performed so that NMR (Noise-to-Mask Ratio) value, which is a

ratio of the masking threshold calculated by the psychoacoustic portion 210 to

the noise generated at each band", *lines 44-49*], adding quality information [*col. 3*

lines 44-47] to *the header of the coded parts* of the bit-stream [Fig. 3, *col. 4 lines 22-*

26] such that the quality information is situated throughout the bit-stream [Fig. 3].

Therefore, it would have been obvious to a person of ordinary skill in the

art at the time the invention was made to incorporate the teaching of Park into the

teaching of Shin to include the header and to add the quality information to the headers of the coded parts of the bit-stream. The modification would be obvious because one of ordinary skill in the art would be motivated to provide a scalable audio (i.e. video or moving picture) coding/decoding, which can control the magnitude of bit-stream and the complexity of a decoder **[Park, *col. 3 lines 17-23*]**.

As per claim 2, the rejection of claim 1 is incorporated and further Shin teaches:

the coding step is a scalable coding(i.e. spatially scalable architecture) step to obtain a scalable bit-stream **[*col. 2 lines 3-4* "coding the shape and texture information of the base layer to generate a base layer bitstream"].**

As per claim 3, the rejection of claim 1 is incorporated and further Shin teaches:

the quality information relates to an object reproduction quality **[*col. 1 lines 52- 57* "SNR scalable coding function, which can variably determine picture quality in a predetermined space, as well as a spatially scalable coding function, so as to transmit data in different ways depending on the limitations of a transmission line or the receiving performance of a receiving terminal (i.e. where picture will be reproduce)"].**

As per claim 4, the rejection of claim 3 is incorporated and further Shin teaches:

the quality information is based on a signal to noise ratio value [**Fig. 2 SNR scalable architecture col.1 lines 52-54** "SNR (signal to noise ratio) **scalable coding function, which can variably determine picture quality in a predetermined space"**].

As per claim 5, the rejection of claim 1 is incorporated and further Shin teaches:

the *quality information* is in the form of quality tags *which are added* at given locations in the bit-stream, the quality tags indicating a quality of the object when the bit-stream is truncated just after (or alternatively just before) the given location in the bit-stream [*col. 5 lines 1-10* **"As further information related to the SNR scalable architecture is added to the BL, the SNR of the BL gradually increases, so that the picture quality of images is sequentially enhanced as shown in BSNR03, BSNR14 and BSNR25"**]. In addition, Park teaches the limitation of claim 5 [**Fig. 3** *col. 6 lines 44-49*].

As per claim 7, the rejection of claim 2 is incorporated and further Shin teaches:

the scalable bit-stream includes several layers and wherein respective layers include respective quality information [*col. 2 lines 1-3* **"spatially scalable architecture including a single base layer and at least one enhancement layer"** *col. 5 lines 17-22* **"In the embodiment of FIG. 2, the spatially scalable architecture is a two-layer**

architecture composed of a base layer and an enhancement layer, but the scope

of the present invention is not restricted to this embodiment and may include

more than two layers"].

In addition, Park teaches the limitation of claim 7 **[Fig. 3]**.

As per claim 10, is rejected for the same reason set forth in the rejection

of claim 1 above and further Shin teaches:

transmitting the bit-stream in which the quality information has been added **[col. 1 lines**

51-56 "to provide a moving picture coding/decoding method and apparatus for

providing a SNR scalable coding function, which can variably determine picture

quality in a predetermined space, as well as a spatially scalable coding function,

so as to transmit data in different ways depending on the limitations of a

transmission line"].

As per claim 13, is a device claim corresponds to method claim 1 and is

rejected for the same reason set forth in the rejection of claim 1 above.

As per claim 14, the rejection of claim 13 is incorporated and further Shin

teaches:

a transmitter (to transmit a data) comprising a device **[col. 1 lines 51-60 "to provide a**

moving picture coding/decoding method and apparatus for providing a SNR

scalable coding function, which can variably determine picture quality in a

predetermined space, as well as a spatially scalable coding function, so as to transmit data in different ways depending on the limitations of a transmission line" "The method and apparatus also provide scalable coding of an arbitrary shaped object as well as a quadrilateral picture, thereby providing various qualities of service].

As per claim 19, it encompasses limitations that are similar to limitations of claim 1. Thus, it is rejected with the same rationale applied against claim 1 above.

As per claim 20, the rejection of claim 19 is incorporated and Shin doesn't clearly mention that storage medium on which a signal has been stored.

However, Park discloses a storage medium on which the bit-stream has been stored, the storage medium being arranged to receive the bit-stream from the transmitter and being subsequently couplable to the reproduction unit to enable transmission of the bit-stream from storage medium to the reproduction unit for reproduction thereby [col. 1 lines 35-40 "an audio signal storage/restoration method for converting an analog signal into digital PCM (Pulse Code Modulation) data through sampling and quantization, storing the converted signal in a recording/storage medium such as a compact disc or digital audio tape and then reproducing the stored signal" col. 5 lines 20-25 "digital computer that is running a program form a computer usable medium including but not limited to storage media such as magnetic storage media (e.g., ROM's, floppy disks, hard disks,

etc.), optically readable media (e.g., CD-ROMs, DVDs, etc.), hybrid formats (magneto optical disks) and carrier waves (e.g. transmission over the Internet)"].

4. Claims 6, 9, 11, 12, 15-17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shin et al (US Patent No. 6,493,387) in view of Park et al (US Patent No. 6,148,288) and further in view of Chen et al (US 6,658,057).

As per claim 6, the rejection of claim 1 is incorporated. Shin and Park don't expressively mention a scalable coding standard.

However, Chen teaches scalable coding standard [*col. 2 lines 59-61* "a device which receives a version of the video image which has been digitally encoded and compressed according to MPEG standards"].

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the teaching of Chen into the teaching of Shin and Park to incorporate the information in a given standard. The modification would be obvious because one of ordinary skill in the art would be motivated so that data would not be exclusive to certain device or equipment for processing.

As per claim 9, Shin teaches:

receiving the at least one bit-stream 9 [**Fig. 3 VLD receive the bitstream as input at receiving terminal**];

extracting the quality information from the header of the coded parts of the *bit-stream* **[col. 6 lines 64-67, col. 7 lines 1-3 "The VLD 210 variable length decodes a bitstream that has been coded by an apparatus for coding video input data including the shape information and inner texture information of an object based on a spatially scalable architecture and a SNR scalable architecture, and classifies the bitstream into a base layer bitstream and an enhancement layer bitstream" col. 7 lines 12-14 "The first shape decoder 221 shape decodes coded shape information, which is contained in the base layer bitstream, to reconstruct base layer shape information"].**

Shin doesn't expressively mention that extracting *the quality information from the header of the coded parts* of the bit-stream and processing the at least one bit-stream.

However, Park teaches that extracting *the quality information from the header of the coded parts* of the bit-stream **[Fig.4 col. 13 lines 21-29].**

processing the at least one bit-stream in consideration of the quality information obtained form the header of one or more coded parts of the bi-stream near the truncation point **[Fig. 4 col. 13 lines 36-38, lines 53-56].**

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the teaching of Park into the teaching of Shin to extract the quality information form the header and to process the at least on bi-stream. The modification would be obvious because one of ordinary skill in the art would be motivated to provide a scalable audio (i.e. video or moving picture)

coding/decoding, which can control the magnitude of bit-stream and the complexity of a decoder **[Park, *col. 3 lines 17-23*]**.

Shin and Park don't expressively mention that transcoding the bit stream and provide the desired combination of bit-rate and quality.

However, Chen teaches transcoding or truncating the at least one bit-stream **[*col. 3 lines 19-23* "When input bitstream 16 enters MPEG transcoder 10, it first encounters the decoding section 12 where the compressed and encoded video image information is decoded and decompressed to provide a reconstructed video image 15" *col. 3 lines 23-27* "The reconstructed video image 15 then passes through the encoding section 14 of transcoder 10 where it is re-encoded and re-compressed to provide the output bitstream 17 at the desired output bit-rate"]** in the case a desired combination of bit-rate and quality of the at least one bit-stream differs from a current combination of bit-rate and quality of the at least one received bit-stream **[*col. 3 lines 6-8* "Transcoder 10 changes the bit-rate of the bitstream to accommodate the different bit-rate capacities of the input and output bitstreams"]**;

providing the at least one bit-stream at the desired combination of bit-rate and quality **[*col. 3 lines 23-27* "The reconstructed video image 15 then passes through the encoding section 14 of transcoder 10 where it is re-encoded and re-compressed to provide the output bitstream 17 at the desired output bit-rate"]**.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the teaching of Chen into the

teaching of Shin and Park to utilize the transcoder for transcoding the data-stream. The modification would be obvious because one of ordinary skill in the art would be motivated to use transcoder for modifying the digital data to change the bit-rate of the encoded signal **[Chen, *col. 1 lines 33-35*]**.

As per claim 11, is rejected for the same reason set forth in the rejection of claim 9 above and further Chen teaches:

decoding the at least one bit-stream at the desired combination of bit-rate and quality **[col. *3 lines 19-23* "When input bitstream 16 enters MPEG transcoder 10, it first encounters the decoding section 12 where the compressed and encoded video image information is decoded and decompressed to provide a reconstructed video image 15" col. *3 lines 6-8* "Transcoder 10 changes the bit-rate of the bitstream to accommodate the different bit-rate capacities of the input and output bitstreams"]**.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the teaching of Chen into the teaching of Shin and Park to decode the datastream and provide the desired bit rate. The modification would be obvious because one of ordinary skill in the art would be motivated to change the bitrate of the bitstream to accommodate the different bit-rate capacities of the input and output bitstreams, and acts as smooth transition for a bitstream from one transmission network to another and thus from one bit-rate to another bit-rate **[Chen, *col. 3 lines 6-10*]**.

As per claim 12, is rejected for the same reason set forth in the rejection

of claim 11 above and further Shin teaches:

extracting the quality information from the header of the *bit-stream* **[*col. 6 lines 64-67***

***col. 7 lines 1-3* The VLD 210 variable length decodes a bitstream that has been**

coded by an apparatus for coding video input data including the shape

information and inner texture information of an object based on a spatially

scalable architecture and a SNR scalable architecture, and classifies the

bitstream into a base layer bitstream and an enhancement layer bitstream *col. 7*

***lines 12-14* The first shape decoder 221 shape decodes coded shape information,**

which is contained in the base layer bitstream, to reconstruct base layer shape

information];

decoding the bit-stream to obtain a decoded multi-media object **[*col. 6 lines 59-63***

"decoding a bitstream that has been coded based on a spatially scalable

architecture and a SNR scalable architecture according to the present invention,

includes a variable length decoder (VLD) 210, a base layer decoder 220 and an

enhancement layer decoder 230"]; and

processing the multi-media object in dependence on the extracted quality information

from the bit-stream whereby the processed multimedia object is reproducable by the

reproduction unit **[Fig. 3 *col. 7 lines 11-24* "The first shape decoder 221 shape**

decodes coded shape information, which is contained in the base layer bitstream,

to reconstruct base layer shape information. The first SNR scalable architecture

decoder 223 sequentially inverse frequency transforms bitstreams selected from

a SNR scalable architecture contained in the base layer bitstream and sequentially adds the inverse frequency transformed bitstreams to the base layer texture information, thereby improving the picture quality of the base layer"].

Shin doesn't expressively mention that extracting the quality information from *the header of the coded parts* of the bit-stream.

However, Park teaches that extracting *the quality information from the header of the coded parts* of the bit-stream **[Fig.4 *col. 13 lines 21-29*]**.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the teaching of Park into the teaching of Shin to extract the quality information form the header. The modification would be obvious because one of ordinary skill in the art would be motivated to provide a scalable audio (i.e. video or moving picture) coding/decoding, which can control the magnitude of bit-stream and the complexity of a decoder **[Park, *col. 3 lines 17-23*]**.

As per claim 15, is a device claim corresponds to method claim 9 and is rejected for the same reason set forth in the rejection of claim 9 above.

As per claim 16, the rejection of claim 15 is incorporated and further Chen teaches:

a receiver (to receive a data) comprising a controller **[Fig. 2 *col. 2 lines 59-60* "an MPEG transcoder is a device which receives a version of the video image which has been digitally encoded"].**

As per claim 17, is a device claim corresponds to method claim 12 and is rejected for the same reason set forth in the rejection of claim 12 above.

As per claim 18, the rejection of claim 15 is incorporated and further Chen teaches that a multiplexer or network node (truncator/transcoder and control unit together may constitute part of a multiplexer, bit-rate control unit, network node, etc.) comprising a controller (as claimed in claim 15) **[Fig. 2 *col. 2 lines 59-63* "an MPEG transcoder is a device which receives a version of the video image which has been digitally encoded and compressed according to MPEG standards, and decodes and reencodes the video to match the characteristics of the new transmission medium"].**

5. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shin et al (US Patent No. 6,493,387) in view of Park et al (US Patent No. 6,148,288) and further in view of Girod et al (US Patent No. 5,809,139).

As per claim 8, the rejection of claim 1 is incorporated and Shin and Park don't expressively mention that the bitstream is encrypted and the quality information is unencrypted.

However, Girod teaches the bit-stream is encrypted and the quality information is unencrypted **[*col. 5 lines 25-39* "The signal input to the digital watermarking apparatus is divided into its separate components, those being the**

DCT coefficients for the prediction error portion of the signal (or for intraframe coded data), the motion vectors (if any), and the header/side information of the bitstream. The header/side information (i.e. quality information) is simply passed through to the output of the watermarking apparatus 26 (i.e. unencrypted). The prediction error signal, however, is modified to embed a watermark (i.e. encrypted). The prediction error data is the portion of the bitstream (i.e. bitstream) in which the watermark data is embedded" *col. 3 lines 1-4* "In one alternative embodiment of the invention, an encryption system is used in conjunction with the watermarking device, such that the signal is watermarked and encrypted prior to being transmitted to the receiver"].

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the teaching of Girod into the teaching of Shin and Park to encrypt (i.e. watermark) the datastream. The modification would be obvious because one of ordinary skill in the art would be motivated to achieve copyright protection with the addition of a watermark to the video signal and secure transmission [Girod, *col. 1 lines 16-17*].

Response to Arguments

6. Applicant has amended claims 1, 3, 5, 6, 9-13, 15, 17, 19 and 20, which necessitated new grounds of rejection. See rejections above.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action.   Accordingly, **THIS ACTION IS MADE FINAL**.   See MPEP § 706.07(a).   Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

Kikuchiet al (US 6,415,398) discloses a coding system wherein an error correction/detection coding is combined with a synchronization code; the problems of pseudo synchronization and a step out due to error detection are solved [Fig. 42].

Beard (US 6,252,965) discloses a method and circuit for deriving a set of multi channel audio signals from a conventional monaural or stereo audio signal uses an auxiliary multi channel spectral mapping data stream [Fig. 8].

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.
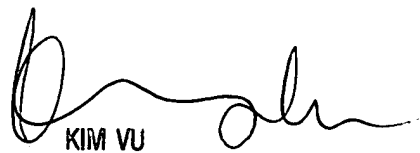
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nirav Patel whose telephone number is 571-272-5936. The examiner can normally be reached on 8 am - 4:30 pm (M-F).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim Vu can be reached on 571-272-3859. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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